



ICAO ENGINE EXHAUST EMISSIONS DATA SHEET

SUBSONIC ENGINES

ENGINE IDENTIFICATION: RB211-524B series
 UNIQUE ID NUMBER: 1RR004
 COMBUSTOR: Package 1
 ENGINE TYPE: TF

BYPASS RATIO: 4.5
 PRESSURE RATIO (π_{00}): 28.0
 RATED THRUST (F_{00}) (kN): 218.5

REGULATORY DATA

CHARACTERISTIC VALUE:	HC	CO	NO _x	SMOKE NUMBER
D _p /F ₀₀ (g/kN) or SN	124.0	197.8	78.3	19.7
AS % OF ORIGINAL LIMIT	632.7	167.6	81.5	103.0
AS % OF CAEP/2 LIMIT (NO _x)			101.9	
AS % OF CAEP/4 LIMIT (NO _x)			122.7	
AS % OF CAEP/6 LIMIT (NO _x)			139.4	
AS % OF CAEP/8 LIMIT (NO _x)			165.5	

DATA STATUS

x PRE-REGULATION
 - CERTIFICATION
 x REVISED (SEE REMARKS)

TEST ENGINE STATUS

x NEWLY MANUFACTURED ENGINES
 - DEDICATED ENGINES TO PRODUCTION STANDARD
 - OTHER (SEE REMARKS)

EMISSIONS STATUS

x DATA CORRECTED TO REFERENCE
 (ANNEX 16 VOLUME II)

CURRENT ENGINE STATUS

(IN PRODUCTION, IN SERVICE UNLESS OTHERWISE NOTED)
 x OUT OF PRODUCTION (DATE: -)
 - OUT OF SERVICE (DATE: -)

MEASURED DATA

MODE	POWER SETTING (%F ₀₀)	TIME (minutes)	FUEL FLOW (kg/s)	EMISSIONS INDICES (g/kg)			SMOKE NUMBER
				HC	CO	NO _x	
TAKE-OFF	100	0.7	2.383	0.52	1.83	47.00	17.9
CLIMB OUT	85	2.2	1.939	0.40	2.82	33.00	13.5
APPROACH	30	4.0	0.693	4.98	20.00	9.75	2.7
IDLE	7	26.0	0.272	50.60	82.20	3.53	0.9
LTO TOTAL FUEL (kg) or EMISSIONS (g)			947	22453	39110	16270	-
NUMBER OF ENGINES				3	3	3	3
NUMBER OF TESTS				4	4	4	4
AVERAGE D _p /F ₀₀ (g/kN) or AVERAGE SN (MAX)				106.3	182.9	73.9	17.9
SIGMA (D _p /F ₀₀ in g/kN, or SN)				6.6	7.2	6.0	0.5
RANGE (D _p /F ₀₀ in g/kN, or SN)				97.7-112	175.6-189	64.9-77.6	17.3-18.4

ACCESSORY LOADS

POWER EXTRACTION 0 (kW) AT - POWER SETTINGS
 STAGE BLEED 0 (% CORE FLOW) AT - POWER SETTINGS

ATMOSPHERIC CONDITIONS

BAROMETER (kPa)	99.3-100.3
TEMPERATURE (K)	287-291
ABS HUMIDITY (kg/kg)	0.008

FUEL

SPEC	DERD 2494
H/C	1.94
AROM (%)	20

MANUFACTURER: Rolls-Royce plc
 TEST ORGANIZATION: Rolls-Royce Ltd
 TEST LOCATION: Derby
 TEST DATES: 01/06/1979-01/08/1979

REMARKS

- Package 1 Combustor.
- Applicable to RB211-524B, B2, B3, B4.

Compliance with Fuel Venting requirements: -

('x' if complies, 'PR' if pre-regulation, '-' if information is not available)